

# MANAGING CORPORATE CARBON RISK:

## ELEMENTS OF AN EFFECTIVE STRATEGY

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### INTRODUCTION

For the past decade, while the debate has focused on the science of climate change and the necessity for action to mitigate potential climate impacts, a growing number of U.S. companies across industry sectors have voluntarily put in place greenhouse gas ("GHG") mitigation strategies. This is evidenced by over fifty companies that have set voluntary GHG reduction goals. The U.S. Environmental Protection Agency's ("EPA") Climate Leaders partnership was launched in early 2002 to help companies improve their GHG management practices by working with companies to set aggressive GHG reduction targets and track their progress through the provision of an annual GHG inventory to EPA.<sup>1</sup>

After four years of program implementation, there are lessons that can be learned from voluntary corporate GHG management "best practices." This article communicates the knowledge gained by the Climate Leaders program and its Partner companies in the process of developing successful GHG management practices. The article defines the components of an effective and comprehensive strategy, details the benefits of adopting such a strategy, and using case studies, highlights GHG management best practices designed and adopted by Climate Leaders Partner companies.

### BACKGROUND

President Bush's Climate Change Strategy was announced in February 2002 with three main focus areas: (1) reduce the GHG intensity of the U.S. economy by eighteen percent by 2012; (2) establish the Climate Change Science Program and the Climate Change Technology Program; and (3) engage both developed and developing countries to establish an efficient and coordinated response to climate change.<sup>2</sup>

The President included three key approaches in his announcement, designed to achieve the eighteen percent goal. These approaches consist of enhancing the Department of Energy's "section 1605(b)" voluntary GHG registry, establishing partnerships with industry sectors through the "Climate VISION" effort, and challenging individual companies to take action to reduce their climate footprints.<sup>3</sup>

While debate may continue over the proper steps for climate change action, dozens of U.S. companies are currently taking action, recognizing that climate change is an important strategic issue. Many leading firms now believe that the opportunities and risks posed by climate change – including GHG mandates at the state and international level, shareholder resolutions, litigation against emitters, rising energy costs, and increased public awareness about climate change – warrant a strategic response.

### COMPONENTS OF AN EFFECTIVE GHG MANAGEMENT STRATEGY

Companies that are beginning to explore possible responses to climate change benefit from several years of voluntary corporate leadership in this area. A consensus is emerging on the prudent steps that companies can take to mitigate their exposure to reputation, economic, insurance, and other risks associated with climate change. To address the risks associated with climate change, leading companies are developing comprehensive GHG management strategies composed of three parts: (1) a corporate-wide GHG inventory; (2) an inventory management plan; and (3) aggressive GHG reduction targets.

#### STEP ONE: COMPLETE A CORPORATE GHG INVENTORY

Companies are discovering that the first step in an effective strategy is to assess the risks associated with company operations by performing a high-quality corporate GHG inventory, which defines the quantity of GHGs emitted annually as a result of the company's operations. Consensus is emerging that a good corporate inventory should include the six major GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>) on a company-wide basis associated with onsite fuel consumption, process-related emissions (as applicable), refrigeration/air conditioning use, and indirect emissions from electricity/steam purchases.<sup>4</sup>

Performing a corporate GHG inventory helps companies identify the quantity of GHGs emitted from different sources across the corporation and evaluate the risks of future carbon liabilities. A GHG inventory can also be useful in responding to risk disclosure requests from shareholders, environmental groups, and the financial and insurance communities.

A corporate-wide GHG inventory is critical, as opposed to narrowly focusing on individual facilities or single processes, because it allows a company to discover previously unknown sources of emissions. A comprehensive inventory may also challenge preconceptions about the company's major emissions sources. For example, several Climate Leaders Partners were surprised to find that corporate jets and other business travel were a sizable percentage of their overall GHG footprint. The inventory also helps a company to identify and target those facilities that are the largest contributors to corporate emissions.

Once a company has a comprehensive picture of its climate impact, it is in a better position to strategically and cost-effectively address its risk. Since the inventory is updated annually,

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it serves as the metric for tracking the success of GHG reduction efforts. Through the inventory process, companies are discovering the wisdom of the maxim "what is not measured cannot be managed." Companies are also discovering that inventory data has additional value beyond GHG management, as they discover facilities that pay higher-than-expected energy costs or find new consolidation or energy efficiency opportunities.

#### CASE STUDY: NOBLE CORPORATION

Noble Corporation, founded in 1921, is a leading provider of diversified services for the oil and gas industry worldwide.<sup>5</sup> Noble performs contract drilling services for the oil industry. The company joined Climate Leaders in 2004, and is currently working to set a corporate-wide GHG reduction goal.

Noble first performed a pilot GHG inventory in 2002, employing a consulting company to quantify the annual greenhouse gas emissions released by one of Noble's drilling rigs. These results showed that diesel-driven electrical generators and equipment were responsible for the majority of the rig's emissions and prompted Noble to complete a baseline inventory of

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all the rigs in its fleet. The baseline inventory confirmed the pilot's findings and focused the corporation's attention on reducing emissions from diesel engines. Consequently, Noble began employing new diesel injection technology, reducing energy consumption without sacrificing engine response or power output. As a result of this new rig efficiency program, fuel consumption has decreased two percent, translating into dollar savings of \$5,000 a year per engine, or about \$270,000 total per year.

Performing an inventory thus proved invaluable in helping Noble identify where it could best focus its GHG reduction efforts. As one part of its overall corporate efforts to reduce GHG emissions, Noble continues to focus on identifying new technologies and methods for improving diesel engine efficiency.

#### STEP TWO: DEVELOP AN INVENTORY MANAGEMENT PLAN

While they create their GHG inventory, Climate Leaders companies are working in parallel to document the process through the development of an inventory management plan

("IMP"). The IMP is an internal process for the company to institutionalize the collection, calculation, and maintenance of GHG data and the completion of a high quality inventory. The IMP ensures that an accurate and transparent base-year inventory is created and then consistently updated and maintained over time.

Companies may have a single IMP document that addresses all of the elements that go into developing their corporate inventory, or they might have an equivalent collection of procedures and other relevant information. The Climate Leaders program provides an IMP checklist that describes all of the elements that make up a high quality IMP. An IMP is made up of seven major sections: (1) partner information; (2) boundary conditions; (3) emissions quantification; (4) data management; (5) base year; (6) management tools; and (7) auditing and verification.<sup>6</sup>

This sort of rigorous management plan maximizes the accuracy, consistency, and transparency of the inventory, and proves to be a critical step towards credible inventory tracking over time. Development of an IMP can also serve as a preparatory tool for an independent third party verification. In addition, the process of documenting how the inventory is developed affords the opportunity to discover areas for improvement in the system and to create a clear paper trail.

When a company begins to contemplate developing a corporate GHG inventory, it often has the perception that it is a time- and cost-intensive process. This may or may not be true, depending on the particular company's situation. Relevant data may already be collected in the form of utility bills, transport data, and emissions factors; however, multiple collection systems may need to be integrated. Completing a GHG inventory requires the coordination of numerous people at the facility and corporate level. Some sources of data may need to be tracked for the first time; a process needs to be created to collect the data efficiently and calculate the emissions.

Nonetheless, companies are finding that the up-front investment they are making to produce a detailed IMP can help reduce the long-term costs associated with GHG management. IMPs have been shown to improve the efficiency of inventory development and adjustments. Often, existing data collection systems are employed in completing a GHG inventory (e.g. an energy management system), and a renewed focus on the details of these data collection and management systems through the IMP can lead to identifying areas for improvement and opportunities for efficiency gains (and cost savings). In addition, companies are seeing that a documented, institutionalized process minimizes disruptions from employee turnover and facilitates necessary modifications to the inventory that stem from, for example, changes in the company profile, availability of new or improved data, or acquisitions and divestitures.

A thorough IMP thus ensures consistency among different facilities, provides for accurate tracking over time, improves reliability of emissions and reductions estimates, and helps to ensure the credibility of the data when disclosed to interested stakeholders.

### STEP THREE: SET A CORPORATE GHG REDUCTION GOAL

Once a high-quality base-year inventory and IMP are completed, companies can begin to address their risks by setting a GHG reduction goal and formulating a reduction strategy. Climate Leaders Partners have seen the critical importance of setting a goal in engaging management and stakeholders and in selling the overall GHG management strategy.

There are many considerations to take into account when a company is developing a GHG reduction goal. Implementing a reduction target is likely to necessitate changes in behavior and decision-making throughout the organization, and requires establishing an internal accountability and incentive system, as well as adequate resources.

Next, a company must decide on the target type (absolute vs. intensity). An absolute target is expressed in terms of a reduction over time in a specified quantity of GHG emissions to the atmosphere (*i.e.* tons of CO<sub>2</sub>-equivalents), whereas an intensity target is expressed as a reduction in the ratio of GHG emissions relative to another business metric (*i.e.* tons of CO<sub>2</sub>-equivalents per ton of product, per kilowatt-hour, ton-mileage, etc.) or some other metric such as sales, revenues, or office space.

Other considerations include setting the target boundaries, choosing the target base year, and defining the target time period. Additional factors include understanding key drivers affecting GHG emissions, developing reductions strategies, looking at the future of the company, factoring relevant growth factors, evaluating existing environmental plans or energy plans that will affect GHG emissions, and benchmarking GHG emissions with similar organizations.

Finally, corporate GHG goals will need to be tailored to each company's situation, as each company has a unique set of GHG emissions sources and reduction opportunities. However, as more companies announce greenhouse gas emissions reduction goals, consensus is beginning to emerge that to be considered aggressive, a company's goal must be: (1) corporate-wide; (2) based on the most recent base year for which data are available; (3) achieved over a longer time frame (five to ten years typically); (4) expressed as an absolute GHG reduction or as a decrease in GHG intensity; and (5) aggressive compared to the projected GHG performance for the Partner's sector.<sup>7</sup>

Experience shows that the cornerstone of an effective corporate GHG management strategy is an aggressive GHG reduction goal. Goal-setting is often the driver to reduce emissions and helps to ensure the overall success of a company's GHG management strategy, particularly in the eyes of interested stakeholders. Many companies have been working on energy efficiency and other emissions reduction projects for several years. However, rolling these efforts into an overall GHG reduction strategy with an aggressive goal as the centerpiece helps identify additional cost-effective opportunities for reductions, gain executive-level management attention, secure funding for

these types of reduction projects, and galvanize stakeholder support for GHG reduction efforts.

### CASE STUDY: BALL CORPORATION

Ball Corporation is one of the world's largest suppliers of metal and plastic packaging to the beverage and food industries.<sup>8</sup> Ball joined Climate Leaders in 2002 and has pledged to reduce U.S. GHG emissions by sixteen percent per production index from 2002 to 2012.

After completing a baseline inventory and developing an IMP, Ball embarked on the task of setting a corporate-wide GHG reduction goal for its U.S. facilities. Desiring its goal to be achievable while still credible, the corporation developed a goal-setting strategy that considered several factors such as implementation cost; collateral benefits to the company, environment, and community; time to implement; return on investment; core business contribution; brand image contribution; and obstacles to implementation.

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Ball realized that many of the ideas and knowledge needed to explore reduction opportunities could be found at the level of individual business units, motivating Ball to develop a "bottom-up" approach to setting its goal. The company surveyed facilities for potential opportunities, met with its engineering group regarding new technologies, and held discussions with business leaders to understand strategic considerations for their industry sector. The goal task force then summarized GHG reduction opportunities by both facility and operational group and included an uncertainty analysis.

This bottom-up approach resulted in benefits for Ball above and beyond setting a reduction goal; the approach served to promote program awareness and buy-in as well as management accountability for the success of the program. The goal-setting process elevated Ball's GHG reduction efforts to a top priority and garnered support along the way from employees across the company. This greatly increased the company's chances for success in its reduction efforts.

Aggressive corporate GHG reduction goals serve to rally staff around a common goal and encourage innovation. Climate Leaders companies are seeing that goals and implementation of

reduction strategies result in positive employee morale and may help in employee recruiting and retention. For example, Roche Nutley implemented a hybrid vehicle pilot program for a number of marketing employees and saw such a positive response that the company plans to equip an entire sales team with hybrid vehicles.<sup>9</sup>

Finally, and most important to the bottom line, implementation of GHG goals frequently leads to cost savings. For example, Climate Leader IBM Corporation, which avoided GHG emissions of 1.28 million tons from 1998 to 2005, saved \$115 million dollars in reduced energy costs in the process.<sup>10</sup> SC Johnson also estimates it has saved \$2.6 million a year, a projected overall return on its investment of twenty percent, by installing a turbine system to produce heat and power from landfill gas at one of its facilities.<sup>11</sup> The project proved so successful financially and environmentally that the company began operation of a second turbine that will run on natural gas and landfill gas at the same facility this fall.

## CONCLUSION

This article serves as an overview of the key steps that leading companies are taking to understand and address their climate change risk. Companies are demonstrating that they can take prudent steps to address their climate change impact by performing corporate-wide GHG inventories, establishing inventory management plans, and setting aggressive company GHG reduction goals. Further, a number of companies have found that as they better understand emissions and energy data, they are finding new, and sometimes unexpected, opportunities to increase their bottom line through energy efficiency or other improvements.

For more information about EPA's Climate Leaders program, including a list of Partner companies, program requirements, and other case studies, please visit <http://www.epa.gov/climateleaders>.



## ENDNOTES: Managing Corporate Carbon Risk

<sup>1</sup> See Partner Resources, United States Environmental Protection Agency Climate Leaders website, <http://www.epa.gov/climateleaders/resources/index.html> (last visited Jan. 24, 2006).

<sup>2</sup> *Global Climate Change Policy Book*. White House News & Policies (Feb. 2002), available at <http://www.whitehouse.gov/news/releases/2002/02/climatechange.html> (last visited Jan. 24, 2006) [hereinafter *Policy Book*].

<sup>3</sup> *Policy Book*, *id.*

<sup>4</sup> *Climate Leaders Design Principles*, US EPA EPA430-K-05-005 (May 2005), available at <http://www.epa.gov/climateleaders/resources/design.html> (last visited Jan. 24, 2006).

<sup>5</sup> Personal communication from Keric Peyton, Manager of HSEQ, Noble Drilling Services, Inc (Dec. 2005) (on file with authors); see also K. Peyton, *Baselining and Reducing Air Emissions from an Offshore Drilling Contractor's Perspective* (Background Paper prepared for a presentation: 2005 SPE/EPA/DOE Exploration and Production Environmental Conference, Galveston, TX, 7-9 Mar. 2005).

<sup>6</sup> *Inventory Management Plan*. Climate Leaders Reporting Requirements

& Technical Assistance, available at <http://www.epa.gov/climateleaders/docs/IMPchecklist.doc> (last visited Jan. 24, 2006).

<sup>7</sup> *Setting GHG Reduction Goals*. United States Environmental Protection Agency Climate Leaders, <http://www.epa.gov/climateleaders/resources/goals.html> (last visited Jan. 24, 2006).

<sup>8</sup> Personal communication from Doug Barndt, Principal Environmental Engineer, Ball Corporation (Dec. 2005) (on file with authors).

<sup>9</sup> Press Release, Roche Nutley, Roche Putting the Brakes on Greenhouse Gas Emissions with Hybrid Car Pilot Study (Oct. 22, 2004), available at <http://www.esrvire.com/article.cgi?3162.html> (last visited Jan. 24, 2006).

<sup>10</sup> Press Release, World Wildlife Fund, Aspen, Annapolis, Major Paper Company Commit to Clean Energy and Reducing Greenhouse Gas Emissions – IBM Reduces CO<sub>2</sub> Emissions by More Than 1 Million Tons, Saving \$115 Million (Sept. 29, 2005), available at <http://www.world-wildlife.org/news/displayPR.cfm?prID=212> (last visited Jan. 24, 2006).

<sup>11</sup> Personal communication from Franklyn A. Erickson, Mgr. Environmental Operations & Central Services, SC Johnson (Dec. 2005) (on file with authors).